J&GS

ILLUMINARE

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JOGS BULLETIN

Presented By

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MANAGEMENT OF PPH

S.NO.	STEPS
1.	Call for help, mobilise all available health personnel.
2.	Check woman's pulse, blood pressure, respiration,.Assess whether the woman has heavy bleeding and whether she is in shock.
3.	Try to ascertain the cause: check for hardening of uterus, if atonic, start uterine massage.
4.	Establish two IV lines, draw blood for blood grouping and crossmatching. Start rapid infusion of Ringer Lactate/normal saline (1L in 15-20 mins); give 10 IU inj oxytocin if not given after delivery and start inj oxytocin 10 IU @ 40-60 drops/min.
5.	Insert Foley catheter.
6.	Give oxygen @ 6-8L/min by mask.
7.	Wash hands and wear sterile gloves.
8.	Check for retained placenta/fragments/tear/tone and continue to massage the uterus.
9.	Perform bimanual compression of uterus in case of atonic uterus. Suture 1st and 2nd degree tear at the CHC and refer in case of 3rd and 4th degree tear. If retained placenta, refer to DH for MRP under sedation. If retained placental fragments, remove digitally or with sponge holding forceps (under supervision of MO if done by SN).
10.	Frequently monitor pulse, blood pressure and urine output.
11.	Arrange urgent referral to higher facility for specialist care with accompanying trained personnel and referral slip.
12.	If it is delayed PPH, in addition to above steps, look for signs of infection and administer first dose of antibiotic.

MANUAL REMOVAL OF PLACENTA

Retained placenta is one of the causes of postpartum hemorrhage. It should be urgently performed under anesthesia in atonic postpartum hemorrhage.

S.NO.	STEPS
1.	Prepare necessary equipment.
2.	Tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.
3.	Provide continual emotional support and reassurance, as feasible.
4.	Have the woman empty her bladder or insert a catheter, if necessary.
5.	Give anesthesia (iv pethidine and diazepam, or ketamine).
6.	Give a single dose of prophylactic antibiotics: • Inj. Ampicillin 2g IV + Metronidazole 500mg IV OR • Inj. Cefazolin 1g IV + Metronidazole 500mg IV

7.	Put on protective equipment.
8.	Use antiseptic handrub or wash hands and forearms thoroughly with soap and water and dry with a sterile cloth or air dry.
9.	Put high level disinfected or sterile surgical gloves on both hands (Note: Elbow length gloves should be used if available).
10.	Hold umbilical cord with a clamp.
11.	Pull the cord gently until it is parallel to the floor.
12.	Place the fingers of one hand into the vagina and into the uterine cavity following the direction of the cord until the placenta is located.
13.	When the placenta has been located, let go of the cord and move that hand on to the abdomen to support the fundus abdominally and to provide counter-traction to prevent uterine inversion.
14.	Move the fingers of the hand in the uterus laterally until the edge of the placenta is located.
15.	Keeping the fingers tightly together, ease the edge of the hand gently between the placenta and the uterine wall with the palm facing the placenta.
16.	Gradually move the hand back and forth in a smooth lateral motion until the whole placenta is separated from the uterine wall. If the placenta does not separate from the uterine wall by gentle lateral movement of the fingers at the line of cleavage, suspect placenta accreta and arrange for surgical intervention.
17.	When the placenta is completely separated ◆ Palpate the inside of the uterine cavity to ensure that all the placental tissue has been removed. ◆ Slowly withdraw the hand from the uterus bringing the placenta with it. ◆ Continue to provide counter-traction to the fundus by pushing it in the opposite direction of the hand that is being withdrawn.
18.	Give inj oxytocin 20 units in 1L of IV fluid (NS or RL) at 60 drops/minute.
19.	Have an assistant massage the uterine fundus to encourage atonic uterine contraction.
20.	If there is continued heavy bleeding, give ergometrine 0.2mg IM or prostaglandins.
21.	Examine the uterine surface of the placenta to ensure that it is complete.
22.	Examine the woman carefully and repair any tears to the cervix or vagina or repair episiotomy.
23.	Postprocedure Tasks - 1. Immerse both gloved hands in 0.5% chlorine solution. Remove both gloves by turning them inside out. ◆ If disposing off gloves, place them in a leakproof container or plastic bag. ◆ If reusing surgical gloves, submerge them in 0.5% chlorine solution for 10 minutes for decontamination. 2. Use antiseptic handrub or wash hands with soap and water thoroughly and dry with a clean dry cloth or air dry. 3. Monitor vaginal bleeding and take the woman's vital signs ◆ Every 15 mins for 1 hour ◆ Every 30 mins for 2 hours 4. Make sure that the uterus is firmly contracted 5. Record procedure and findings on woman's record.

APPLICATION AND REMOVAL OF UTERINE BALLOON TAMPONADE

- A compression technique to control post partum hemorrhage due to atonic uterus following aortic compression.

S.NO.	STEPS
1.	Call for help to urgently mobilise available personnel.
2.	Greet the woman respectfully and with kindness.
3.	If the woman is conscious and responsive, tell the woman (and her support person) what is going to be done, listen to her and respond attentively to her questions and concerns.
4.	Provide continual emotional support and reassurance as feasible.
5.	Apply antiseptic solution to the perineal area and vagina.
6.	Prepare the condom balloon tamponade by tying the condom on the tip of foley catheter.
7.	Gently insert a sterile speculum in the vagina and grasp the anterior lip of the cervix with ring or sponge holding forceps.
8.	By forceps, insert the balloon in the uterus through the cervical opening and not just in the vagina.
9.	Now with the help of syringe, inflate the condom balloon with warm saline solution/water into the catheter port till bleeding stops. This usually requires 300-500 ml of liquid but it can vary.
10.	Pack the upper vagina with roller gauze to prevent expulsion of the balloon.
11.	Palpate the uterine fundus abdominally and mark with a pen as a reference line from which any uterine enlargement or distension would be noted during observation.
12.	A single dose of antibiotic (inj ampicillin 2g IV is recommended).
13.	Once the balloon is in place and bleeding has stopped, patient should be transferred to referral facility. No surgery is required at this stage if bleeding stops for 30 minutes. If bleeding continues, consider surgical intervention. Monitor vitals, vaginal bleeding and urine output every hour.
14.	The balloon should remain in the uterus for 6-24 hours Removal Of Balloon Tamponade.
15.	After 6-24 hours, if the uterine fundus remains at the same level and there is no active vaginal bleeding, balloon then should be deflated 50-100 ml every hour as long as there is no further bleeding at each interval.
16.	If significant bleeding resumes, balloon should be re inflated. Recommence oxytocin infusion and prepare for surgical intervention when her condition becomes stable.
17.	If there is no bleeding after 30 minutes of complete deflationi, then remove and discard the balloon and stop oxytocin.
18.	Postprocedure Tasks - 1. Immerse both gloved hands in 0.5% chlorine solution. Remove both gloves by turning them inside out. ◆ If disposing off gloves, place them in a leakproof container or plastic bag. ◆ If reusing surgical gloves, submerge them in 0.5% chlorine solution for 10 minutes for decontamination. 2. Use antiseptic handrub or wash hands with soap and water thoroughly and dry with a clean dry cloth or air dry. 3. Monitor vaginal bleeding and take the woman's vital signs ◆ Every 15 mins for 1 hour ◆ Every 30 mins for 2 hours 4. Make sure that the uterus is firmly contracted 5. Record procedure and findings on woman's record.

NORMAL DELIVERY (II STAGE OF LABOR)

S.NO.	STEPS
1.	Palpate the suprapubic region.
2.	Wash hand and put on sterile gloves.
3.	Clean the woman's perineum.
4.	Encourage the woman to make small pushes with contractions.
5.	Control the birth of the head with fingers of one hand to maintain flexion.
6.	Support the perineum with other hand using a clean pad.
7.	Allow the baby's head to turn spontaneously.
8.	Place hands on either side of baby's head and deliver anterior shoulder.
9.	Deliver posterior shoulder once axillary crease is seen by guiding head in an upwards direction.
10.	Once delivery complete, place the baby on the mother's abdomen.
11.	Inform mother of sex of baby.
12.	Delay cord clamping for 1–3 minutes.
13.	Note time of birth, sex of baby on partograph.
14.	Dry the baby and mother's abdomen with pre-warmed towels.
15.	Cover the baby loosely with second pre- warmed towel from head to toe.
16.	Simultaneously, check for crying/ breathing – if crying/ breathing, then go ahead with ENBC.
17.	Cut the cord immediately and begin resuscitation.

ACTIVE MANAGEMENT OF THIRD STAGE OF LABOR

S.NO.	STEPS
1.	Preliminary step--rules out the presence of another baby by abdominal examination.
2.	Administers uterotonic drug—10 IU oxytocin IM OR Misoprostol 3 tablets (600ug) orally.
3.	Performs Controlled Cord Traction during contractions and delivers the placenta and membranes.
4.	Performs uterine massage.
5.	Examines the lower vagina and perineum.
6.	Examines placenta, membranes and umbilical cord - a. Maternal surface of placenta b. Foetal surface c. Membranes d. Umbilical cord.
7.	Places instruments in 0.5% chlorine solution for 10 minutes for decontamination.
8.	Decontaminates or disposes the syringe and needle.
9.	Immerses both gloved hands in 0.5% chlorine solution.
10.	Washes hands thoroughly with soap and water and air dries.

MANAGEMENT OF PPH DUE TO ATONIC UTERUS

S.NO.	STEPS
1.	Massage the uterus.
2.	Check the woman's bleeding.
3.	Inspect the placenta for completeness and any missing pieces.
4.	Re-check the tone of uterus and bleeding.
5.	Give a second dose of medication telling what dose, route and why (IV drip with Injection oxytocin 20 units in 1000 ml of Ringer Lactate at 40-60 drops per minute).
6.	Re-check bleeding and uterine tone.
7.	Ensure that the urinary bladder is empty/catheterize if bladder is full.
8.	Try Bimanual Compression/Aortic Compression/Condom Tamponade to control bleeding.
9.	Make the decision to transfer.
10.	Explain to the patient about the need to be transported for advanced care as she is at risk for complications that cannot be treated at this local facility, or is “too high risk”, or “might bleed again”, or may need blood transfusion.

ECLAMPSIA

S.NO.	STEPS
1.	Call for help.
2.	Check Circulation.
3.	Establish and maintain airway.
4.	Check Breathing.
5.	Place woman in left lateral position. **For FRU level: Administering Loading Dose (IV+ IM) of Magnesium Sulfate**
7.	Washes hands thoroughly with soap and water and air dry. Puts clean examination gloves on both hands.
8.	Prepares magnesium sulfate 20% solution, 4 g . (Take one 20ml sterile syringe, draw 4 ampoules of Mg So4 (8ml=4g) into the syringe, add 12 ml of distilled water /normal saline for injection to make it 20%)
9.	Carefully cleans the injection site with an alcohol wipe.
10.	Gives magnesium sulfate 20% solution, 4 g by IV injection SLOWLY over 5 minutes11Disposes of used needle and syringe in a sharps disposal box For Non-FRU level: Administering IM loading Dose of Magnesium Sulfate12Prepares 2 syringes(10ml syringe with 22 gauze needle) with 5 g of 50% magnesium sulfate solution with 1 mL of 2% Lignocaine in the same syringe.
13.	Carefully cleans the injection site with an alcohol wipe.
14.	Gives 5 g by DEEP IM injection in one buttock.
15.	Disposes of used needle and syringe in a sharps disposal box.
16.	Carefully cleans the injection site in the other buttock with an alcohol wipe.

17.	Gives 5 g by DEEP IM injection into the other buttock.
18.	Disposes of used needle and syringe in a sharps disposal box19Disposes of gloves in a 0.5% decontamination solution.
20.	Washes hands thoroughly with soap and water then air dry.
21.	Records drug administration and findings on the woman's record. **Maintenance dose of Mg So 4**
22.	Washes hands thoroughly with soap and water and air dry. Puts clean exam gloves on both hands.
23.	Prepares 1 syringe(10ml syringe with 22 gauze needle) with 5 g of 50% magnesium sulfate solution with 1 mL of 2% Lignocaine in the same syringe.
24.	Carefully cleans the injection site with an alcohol wipe.
25.	Gives 5 g by DEEP IM injection every 4 hourly in alternate buttock.
26.	Maintenance dose of MgSO4 to be continued till 24 hours after delivery or the last convulsion whichever is later27Disposes of used needle and syringe in a sharps disposal box.
28.	Disposes of gloves in a 0.5% decontamination solution.
29.	Washes hands thoroughly with soap and water and dries with a clean, dry cloth or air dry.
30.	Records drug administration and findings on the woman's record.

ABC APPROACH

S.NO.	STEPS
What are the Equipment's needed?	
1	◆ Sphygmomanometer, stethoscope, pulse-oximeter (if available), supplemental oxygen, oxygen face mask and tubing.
What would you do first?	
2	◆ Call by name
	◆ Shake & shout
	◆ Shout for help
What would you do next?	
3	◆ Assess airways patency
	(Look for chest movements, Listen for breath sound, Feel air through nostrils within 10 sec.)
4	◆ Breathing (respiration Rate /Min.)
5	◆ Asses circulation (pulse, blood pressure, temperature, skin color, mental state, Urine output & color, FHR-
If ANC Patient)If the airway is not patent, what would you do?	
6.	Perform head tilt & chin lift (Jaw thrust- only in neck injury), insert airway.
Here the instructor would prompt: The woman is breathing, what would you do next?	
7·	Provide immediate management of shock
What Steps would you take to Provide immediate management of shock?	

8.	◆ Insert 2 IV lines, take blood sample and send to lab. Start fluids at rapid rate (1 litre in 20 minutes)
	◆ Positioning,Turn patient to left lateral position
	◆ Start oxygen @ 6-8 litres/minute. ◆ Keep the woman warm, Elevate her legs
	◆ Loosen tight clothing
	◆ Catheterize woman
	◆ Monitor vital signs every 15 minutes ◆ Ensure airway is clear, all the time,
	◆ Once stabilized find out the cause and manage accordingly
Here the instructor would prompt: The woman is not breathing, demonstrate what would you do?	
9.	◆ Suction (only if vomit or blood present) .Positioning- Perform head tilt & chin lift (Jaw thrust- only in neck injury).Insert Mouth gag.
	◆ Give 30 chest compression followed by 2 breaths @ 100 compression/minute
	◆ Press sternum vertically to depress it by 4-5 cm
	◆ Each breath should be provided for one second and should raise the chest.
You have successfully resuscitated the woman what would you do?	
10.	◆ Once stabilized find out the cause and manage accordingly.

PRENATAL CARE AND TESTING

DR.

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Goal of prenatal care is to ensure the well-being of mother and baby using the best available evidence and a patient centered approach.

History:	**Physical examination:**
Medical history: DM, Pregestational hypertension or history of hypertension disease in pregnancy, previous DVT/PE, Autoimmune disease, strong family history of diseases in pregnancy or congenital/inheritable condition. **Obstetrics history:** history of preterm deliveries, HDP,GDM, HIV, SCD, IHCP, personal history of delivering newborn with birth defects or congenital conditions. **Psychological history:** depression screening, intimate partner violence, tobacco alcohol use, travel to areas with endemic diseases, nutrition, toxin exposure.	**Weight gain recommendations:** Table 1 **BP:** Mild >140/90 to <160/110 or severe >160/110 mmHg **Fundal height:** Start after 20-24 weeks **Fetal heart rate:** Audible by 8 weeks with Doppler device Pelvic/ cervical examination if indicated Fetal position by Leopold maneuver at 32- 36 weeks

Table 1. Institute of Medicine Weight Gain Recommendations for Pregnancy.

Prepregnancy Weight Category	Body Mass Index*	Recommended Range of Total Weight (lb)	Recommended Rates of Weight Gain in the Second and Third Trimesters (lb) (Mean Range [lb/wk])
Underweight	Less than 18.5	28 - 40	1 (1 - 1.3)
Normal Weight	18.5-24.9	25 - 35	1 (0.8 - 1)
Overweight	25-29.9	15 - 25	0.6 (0.5 - 0.7)
Obese (includes all classes)	30 and greater	11 - 20	0.5 (0.4 - 0.6)

*Body mass index is calculated as weight in kilograms divided by height in meters squared or as weight in pounds multiplied by 703 divided by height in inches.

*Calculations assume a 1, 1-4.4 lb weight gain in the first trimester.

Modified from Institute of Medicine (US). Weight gain during pregnancy: reexamining the guidelines. Washington, DC, National Academies Press; 2009.©2009 National Academy of Sciences.

Diagnostic tests and interpretation:

First prenatal visits:

LAB TESTS: ABO Rh typing, HB, HCT, hemoglobin electrophoresis, urine culture, Abtitres for Rubella and varicella, VDRL, HIV, Hep B

Not recommended, routine screening for bacterial vaginosis, toxoplasmosis, CMV and Parvovirus, thyroid and Vitamin D deficiency

CARRIER SCREENING: Cystic fibrosis screening, spinal muscular atrophy, haemoglobinopathy

SCREENING FOR FETAL ANEUPLOIDY: Counseling, All women should be offered screening or diagnostic test, regardless of maternal age. 1st trimester combined test between 11 to 13 weeks NT and hCG/PAPP-A blood test and NT,NB scan . 2nd trimester screening by quadruple test at 15-18 weeks but can be done as late as 22 weeks If risk found invasive diagnostic test offered. Diagnostic tests are CVS (10-12 weeks), Amniocentesis (15-18 weeks), and Chromosomal microarray analysis- primary test for patients undergoing diagnostic testing for indication of a fetal structural abnormality detected by USG examination

CERVICAL CANCER SCREENING: Pap smear or high risk HPV screen should be obtained when indicated by standard Pap screening guidelines, regardless of gestation, to start at age 21

LSIL/CIN 1 in pregnancy: colposcopy preferred but it is acceptable to defer colposcopy to 6 weeks postpartum

CIN 2 or CIN 3 in pregnancy, in the absence of invasive or advanced pregnancy, additional colposcopic and cytological examinations are acceptable; repeat biopsy is recommended only if appearance of lesion worsens or if cytology suggest invasive cancer; it is acceptable to defer reevaluation until 6 weeks postpartum.

Endocervical sampling is contraindicated in pregnancy

Subsequent prenatal visits: urinalysis for glucose and protein may be useful for high risk patients (e.g chronic HTN)

24-28 weeks: diabetes screen, repeat hematocrit or HB and repeat antibody screen in Rh negative mother prior to receiving prophylactic Rh immunoglobulin. Repeat Syphilis testing in the 3rd trimester around 28 weeks in all cases (2018 CDC, ACOG, AAP guidelines due to rising cases of congenital syphilis). Retest for HIV at 28 weeks in high risk cases. Retest for HIV and syphilis at delivery in high risk cases.

GDM Screening: Compared to selective screening, universal screening for GDM detects more cases and improves maternal and neonatal prognosis. Hence universal screening for GDM is essential, as women of Asian origin and especially ethnic Indians, are at a higher risk of developing GDM and subsequent type 2 diabetes. The first testing should be done during first antenatal contact as early as possible in pregnancy. The second testing should be done during 24-28 weeks of pregnancy if the first test is negative. There should be at least 4 weeks gap between the two tests. The test is to be conducted for all Pregnant Women even if she comes late in pregnancy for ANC at the time of first contact. If she presents beyond 28 weeks of pregnancy, only one test is to be done at the first point of contact.

Methodology: Test for diagnosis Single step testing using 75 g oral glucose & measuring plasma glucose 2 hour after ingestion. 75g glucose is to be given orally after dissolving in approximately 300ml water whether the PW comes in fasting or non-fasting state, irrespective of the last meal. The intake of the solution has to be completed within 5 min. A plasma standardised glucometer should be used to evaluate blood glucose 2 hours after the oral glucose load. If vomiting occurs within 30 min of oral glucose intake, the test has to be repeated the next day, if vomiting occurs after 30 minutes, the test continues. The threshold plasma glucose level of $\geq$140 mg/dL (more than or equal to 140) is taken as cut off for diagnosis of GDM.

Ongoing care

Patient education:

Immunization during pregnancy- Tdap during each pregnancy (between 27 and 36 weeks)

Recommendation for use of dietary supplementation in pregnancy

Folic acid 0.4mg daily beginning atleast 1 month prior to attempting conception and continuing throughout pregnancy. 1 to 4 mg for women at high risk of having child with neural tube defect beginning 1 to 3 months before conception continued through first 12 weeks of gestation and then reduced to 0.4 mg daily.

Calcium 1000 to 1300 mg/day beneficial for women with high risk of gestational hypertension

Caffeine <200 mg/day

Vitamin D 200- 1200 IU

Other important counseling topics during pregnancy:

Airline travel generally safe until upto 35 weeks; >2 hours without ambulation increase risk of thrombosis

Exercise healthy uncomplicated pregnancy should continue.

Avoid large fish like shark, tuna swordfish and mackerel (high level of mercury).

Ministry of Health and Family Welfare
Government of India

LAQSHYA लक्ष्य

ECLAMPSIA

Pregnancy with Convulsion and BP ≥ 140/90 mm Hg

Immediate Management

1 Keep women in bed with padded rails on sides, preferably near nursing station

2 Position her on left side, Oropharyngeal airway to be kept patent, Oronasal suction to remove secretions and put airway

3 Ensure preparedness to manage maternal and foetal complications

Start Oxygen by mask at 6-8 l/min, Start IV fluids-RL/ NS at 75 ml/hr

Acute hypertensive crisis

SBP ≥ 160 mm Hg or
DBP ≥ 110 mm Hg

Aim for SBP between 130-150 mm Hg DBP 80-100 mm Hg.

- **Inj Labetalol** 20 mg IV bolus slowly over 1-2 min, if BP not controlled, repeat 40 mg after 10 minutes, repeat 80 mg every 10 minutes if BP not controlled (max 300 mg) with cardiac monitoring

OR

- **Inj Hydralazine** 5 mg I/V slowly over 1-2 min, if BP not controlled, repeat 5-10 mg over 2 min after 20 min. If BP not controlled again repeat 10 mg over 2 min (max 20 mg). If no response switch to other antihypertensive drug

OR

- **Tab Nifedipine** orally 10 mg stat, repeat 10-20 mg after 20 min, if BP not controlled repeat 10-20 mg after 20 min (max 30 mg). (Give through Ryle's tube if unconscious patient). If no response switch to other antihypertensive drug
- Keep record of BP as sometimes there is sudden hypotension
- Continue B.P monitoring every 15 minutes for 2 hours after stabilization then every 30 min for 1 hour. Then every hour, if in labor or 4 hours, if not in labor

Anti Convulsants

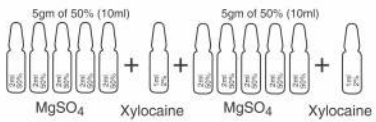
Drug of Choice - Magnesium Sulfate ($MgSO_4$)

- *Loading Dose - Total 14 gm of $MgSO_4$

1) 4 gm of 20%, slow IV in 5 – 10 mins

= 8 ml of 50% $MgSO_4$ diluted with 12 ml Normal Saline / Distilled Water (Total 20 ml)

2) 10 gm of 50%, deep IM (5 gm in each buttock)



Left Buttock | Right Buttock

If recurrent fits after 15 – 30 mins of loading dose – repeat 2 gm 20% slow IV in 2 minutes.

= 4 ml of 50% $MgSO_4$ diluted in 6ml Normal Saline (Total 10ml)

*Preparation of IV loading dose with 25% $MgSO_4$; 16ml of 25% $MgSO_4$ diluted with 4ml Normal Saline/Distilled water (Total 20 ml)

- **Maintenance Dose — 5 gm IM (50%)**

= Deep IM, Alternate buttocks, after monitoring, every 4 hourly

If Patellar jerk absent or urine output <30 ml/hr withhold MgSO4 and monitor hourly- restart maintenance dose when criteria is fulfilled

- **Monitor**

Presence of Patellar Jerks	Respiratory Rate (RR)>16/min	Urine Output ≥30ml/hr in last 4 hours

Continue maintenance dose till 24 hours after last fit/delivery, whichever is later

If RR < 16/min, withhold MgSO4, give antidote– Calcium Gluconate 1 gm IV 10 ml of 10% solution in 10 minutes

Manage patient in Obstetric HDU. Active management of third stage of labour is a must. Use of Methergine is contraindicated.

Supportive management:
Catheterize bladder. Monitor fluids input and output. Maintain airway, regular suction. Monitor vital signs: pulse, BP, temperature, respiration.

- Deliver the baby irrespective of gestational age after stabilization and reviewing investigations
- Convulsion-delivery interval should not be more than 12 hours. But can wait for vaginal delivery if patient goes in active labor within this time

Favourable Cervix
Bishop score 6 or more- Cervix soft, short, partially dilated

- Induction with Artificial Rupture of Membranes and Oxytocin
- 2nd stage to be cut short by Forceps/ Ventouse

Unfavourable Cervix
Bishop score 5 or less- Cervix firm, long, closed

- Ripening with Dinoprostone gel/Misoprostol tablet/indwelling catheter and assess after 6 hours

If platelet count is less than 30,000 (thrombocytopenia), I/M regime is contraindicated. Use I.V regimen of Zuspan: Magnesium sulphate 4g is given as IV loading dose in the beginning. This is followed by intravenous infusion of Magnesium sulphate at the rate of 1g/hour till 24 hours have elapsed after the last seizure or after delivery, whichever is later.

Indication for C-Section: • If fits not controlled/status eclampticus • Foetal distress • Deteriorating maternal condition • Failed Induction • Any other obstetric indication

Version 2022

Ministry of Health and Family Welfare
Government of India

Management of Post Partum Hemorrhage (PPH)

Blood loss > 500ml after vaginal child birth/ > 1000ml after C-section/or any loss which deteriorates maternal condition

Patient received in Obstetric Triage of Emergency Room

Initial Assessment:
- A quick history with simultaneous assessment and initial management
- Ascertain the cause
- Continue with the steps of facility-based management (enumerated below)

Facility based management
- Call for help (mobilize all available personnel)
- Assess Airway Breathing and Circulation (ABC), check vitals
- Secure 2 wide bore IV lines (16/18 G)
- Collect blood for investigation: blood group and cross match, complete blood count, blood coagulation profile-bedside clotting and clot retraction time
- Start IV fluids (0.9% Normal Saline/Ringers Lactate)
- Arrange and transfuse blood, when indicated as soon as possible
- Give inj oxytocin 10 IU IM (if not given after delivery)
- 20 IU of oxytocin in 1000ml of RL/NS or 10 IU of oxytocin in 500ml of RL/NS @ 40-60 drops/mt
- Tranexemic acid 1gm in 10ml NS IV over 10 mins (100 mg/min); repeat another dose after 30 min of first dose if required

Monitor
- Pulse rate, blood pressure, respiratory rate, temperature and bleeding per vaginum
- Catheterize and monitor urine output until the woman is stable (normal output > 30 ml/hr)

Check if placenta is expelled or not

Placenta is not expelled (Retained placenta)
- Continue oxytocin drip (Total oxytocin not to exceed 100 IU in 24 hrs)
- If uterus is contracted, attempt controlled cord traction
- Give IV antibiotic or as per Protocol
- Do manual removal of placenta under anaesthesia if required

Placenta is expelled
- Examine placenta and membranes for completeness
- Palpate the uterus per abdomen for the consistency. Rule out inversion of uterus
- Conduct uterine massage and continue oxytocin drip (Total oxytocin not to exceed 100 IU in 24 hrs)

Uterus contracted/relaxed

Uterus well contracted, examine for Genital Trauma (Traumatic PPH)
- Look for cervical/ vaginal/ perineal tear - repair it
- Continue Oxytocin drip
- If scar dehiscence or uterine rupture is suspected than shift to OT for laparotomy

Uterus is not well contracted/ soft and traumatic causes excluded (Atonic PPH)

Continue uterine massage and oxytocin drip (total oxytocin not to exceed 100 IU in 24 hrs)
- If uterus is still relaxed and bleeding uncontrolled – Tablet Misoprostol (PGE1) 800 microgram sublingual/per rectal
- If uterus is still relaxed and bleeding uncontrolled – Inj Carboprost (PGF2 alfa) 0.25mg IM (contraindicated in asthma)/ inj. Methyl ergometrine 0.2 mg IM/IV slowly (contraindicated in hypertension, severe anemia, heart disease)

Check bleeding

Bleeding is uncontrolled
- Arrange for blood transfusion
- Apply non-surgical compression:
  - Bimanual uterine compression
  - Uterine balloon tamponade (Condom over Foley's catheter)
  - External aortic compression

If no response
- Shift to OT for surgical compression
- May consider Uterine Artery Embolization (UAE) in select cases such as with coagulopathy if facilities available

If no response
- Systemic devascularization: uterine artery, ovarian artery, internal iliac artery ligation

If no response
- Hysterectomy total or subtotal (timely hysterectomy)

Refer to higher center (with nearest distance) if above facilities are not available:

Continue oxygen with oxytocin drip and pressure to arrest bleeding by balloon tamponade/vaginal packing/or external aortic compression during transfer
- Closely monitor vitals and bleeding during transport
- If available, consider use of well-equipped ambulance services with trained staff for emergency interventions/resuscitation during transport

Bleeding is controlled
- Repeat uterine massage every 15 min for first 2 hours
- Check vitals and bleeding per vaginum every 15 mins for 1st one hour followed by every 1 hr for next 4 hours and then every 6 hourly for next 24 hr
- Continue Oxytocin infusion (Total Oxytocin dose not to exceed 100 IU in 24 hrs)

Follow up
- Checkup and treat for anemia after bleeding is stopped for 24 hours

Maintenance Dose of Uterotonics

Whenever needed:
- Inj Ergometrine can be repeated every 15 min. {0.2mg IM} (Max 5 doses = 1mg)
- Inj Carboprost can be repeated every 15 min. {0.25mg IM} (Max 8 doses = 2mg)

Map government and private centers/hospitals providing surgical management of PPH for prompt referral and treatment to the nearest available center to avoid delay in reaching the facility – The list and contact details of nearest centers should be displayed for prompt reference

Follow complete referral protocol: Prior communication to referral facility is a must with complete details of woman, management provided, confirm availability of space and requisite staff, etc.

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Government of India

PRE-ECLAMPSIA

Period of gestation > 20 weeks

SBP ≥ 140mm Hg or DBP ≥ 90 mm Hg or both on 2 occasions, 4 hours apart in a previously normotensive patient

Proteinuria ≥ 0.3 g/24-hour urine specimen or protein/creatinine ratio ≥ 0.3 (mg/mg) or (30 mg/mmol) in a random urine specimen or dipstick ≥ 2+

Pre Eclampsia without severe features

- SBP ≥ 140mm Hg or DBP ≥ 90 mm Hg or both
- Proteinuria ≥ 0.3 g/24-hour urine specimen or protein/creatinine ratio ≥ 0.3 (mg/mg) or (30 mg/mmol) in a random urine specimen or dipstick ≥ 2+

- Hospitalize, reassure, advice rest
- Start anti-hypertensive agent when SBP ≥ 150mm Hg and or diastolic ≥ 100mm Hg
- Tab Labetalol 100 mg 8–12 hourly (max 2.4 gm/day)

OR

- Tab Alpha Methyldopa 250-500 mg / 6-8 hourly (max 2gm/day) (as per availability)
- Investigate — CBC with peripheral smear and platelet count, LFT, KFT and fundus exam
- BP and urine output monitoring

- Continue hospitalization
- Regular foetal + maternal surveillance

- Maintain DBP 90-100 mm Hg
- No foetal compromise

If disease is severe, manage as severe pre-eclampsia

Deliver at 37 completed weeks

Frequency of Investigation

Parameter	Frequency
Hb	Weekly
Platelets	Weekly
LFT	Weekly
KFT	Weekly
Fundus	Once
NST/BPP	After 32 Weeks
Doppler Study	3 – 4 Weeks
BP Monitoring	4 times a day

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SEVERE PRE-ECLAMPSIA

Period of gestation > 20 weeks

SBP ≥ 140mm Hg or DBP ≥ 90 mm Hg or both on 2 occasions, 4 hours apart in a previously normotensive patient

Proteinuria ≥ 0.3 g / 24-hour urine specimen or protein/ creatinine ratio ≥ 0.3 (mg/mg) or (30 mg/mmol) in a random urine specimen or dipstick ≥ 2+

Severe Pre-Eclampsia

- BP ≥ 160/110 mm Hg and Proteinuria ≥ 0.3g/24-hour urine specimen or protein/creatinine ratio ≥ 0.3 (mg/mg) or (30 mg/mmol) in a random urine specimen or dipstick ≥ 2+

OR

- BP ≥ 140/90 mm Hg with danger symptoms like severe headache, blurring, epigastric pain, breathing difficulty and or new onset end organ dysfunction:
  - Platelet count < 100,000/microL
  - Serum creatinine > 1.1 mg/dL or doubling from baseline levels
  - Liver transaminases at least twice the upper limit of the normal
  - Pulmonary edema
  - Cerebral or visual disturbances like severe headache, flashes, partial or complete loss of vision

- Urgent hospitalization
- Give MgSO4 as in Eclampsia
- Start anti hypertensive agent if BP ≥ 150/100 mm Hg. Initiate therapy for acute hypertensive crisis if BP ≥ 160/110 mm Hg as in eclampsia
- Inj Labetalol 20 mg IV bolus, repeat 40 mg after 10 minutes if BP not controlled, repeat 80 mg every 10 minutes if needed (max 300 mg) with cardiac monitoring

OR

- Inj Hydralazine 5 mg IV slowly over 1-2 min, repeat 5-10 mg over 2 min after 20 min. If BP not controlled, again repeat 10 mg over 2 min (max 20 mg). If no response switch to other antihypertensive drug

OR

- Tab Nifedipine orally immediate release 10 mg stat, repeat 10-20 mg after 20 min. If BP not controlled, repeat 10-20 mg after 20 min (max 30 mg). {Give through Ryle's tube if unconscious patient}. If no response switch to other antihypertensive drug
- Keep record of BP as sometimes there is sudden hypotension
- Continue B.P monitoring every 15 minutes for 2 hours after stabilisation, then every 30 minutes for 1 hour. Then every hour, if in labour or 4 hours, if not in labour

- Continue Tab Nifedepine 10 mg 8 hourly (max 80 mg/day) OR Tab Labetalol 100 mg 8 -12 hourly (max 2.4 gm/day)
- Investigate — CBC with peripheral smear, platelet count, LFT, KFT, S LDH, Coagulation profile and fundus exam
- Urine output charting
- BP monitoring
- Keep the BP between 130-150 systolic and 80-100 diastolic

Frequency of Investigation

Parameter	Frequency
Hb	Alternate days
Platelets	Alternate days
LFT	Alternate days or earlier
KFT	Alternate days or earlier
Coagulation Profile	Weekly profile as needed if parameters change
Fundus	Weekly unless abnormal
NST/BPP	Bi weekly or more if changes seen
Doppler Study	Weekly or frequent as per the findings
BP Monitoring	4 Hrs

Treatment should be individualised

< 24 Weeks

Foetal salvage difficult

Offer termination of pregnancy

≥ 24 - < 34 Weeks

Inj Dexamethasone 6 mg IM repeat every 12 hrs (Total 4 doses)

BP Controlled
- Explain maternal and foetal adverse effect to relatives
- Regular maternal + foetal surveillance

Terminate at 34 weeks

BP Uncontrolled
- Worsening of clinical/ biochemical parameters
- Signs of foetal compromise

Either induction of labour as per Bishop Score or C-section as per the indication

≥ 34 weeks

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